

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-7 (Canceled).

Claim 8 (New): A process for the continuous recirculation of an olefin which has not been reacted in the epoxidation of olefins by means of hydroperoxide to give oxiranes and is present in an offgas stream formed during the epoxidation, comprising:

- (i) compressing and cooling the offgas stream,
- (ii) separating the olefin from the offgas stream obtained in step (i) by distillation,
- (iii) epoxidizing the olefin separated off in step (ii) by means of hydroperoxide,
wherein the offgas stream comprises unreacted olefin and oxygen.

Claim 9 (New): The process as claimed in claim 8, wherein the offgas stream further comprises nitrogen.

Claim 10 (New): The process as claimed in claim 8, wherein, in step (i), the offgas stream is compressed to a pressure of from 2 to 30 bar and cooled to from 0 to 70°C.

Claim 11 (New): The process as claimed in claim 8, wherein compression occurs in at least two stages in step (i).

Claim 12 (New): The process as claimed in claim 10, wherein compression occurs in at least two stages in step (i).

Claim 13 (New): The process as claimed in claim 8, wherein the olefin is propene and the offgas stream further comprises propane.

Claim 14 (New): The process as claimed in claim 9, wherein, in step (i), the offgas stream is compressed to a pressure of from 2 to 30 bar and cooled to from 0 to 70°C.

Claim 15 (New): The process as claimed in claim 9, wherein compression occurs in at least two stages in step (i).

Claim 16 (New): The process as claimed in claim 14, wherein compression occurs in at least two stages in step (i).

Claim 17 (New): The process as claimed in claim 9, wherein the olefin is propene and the offgas stream further comprises propane.

Claim 18 (New): The process as claimed in claim 10, wherein the olefin is propene and the offgas stream further comprises propane.

Claim 19 (New): The process as claimed in claim 11, wherein the olefin is propene and the offgas stream further comprises propane.

Claim 20 (New): The process as claimed in claim 10, wherein, in step (i), the offgas stream is cooled to from 30 to 40°C and compressed to a pressure of from 12 to 20 bar.

Claim 21 (New): The process as claimed in claim 18, wherein, in step (i), the offgas stream is cooled to from 30 to 40°C and compressed to a pressure of from 12 to 20 bar.

Claim 22 (New): The process as claimed in claim 14, wherein the olefin is propene and the offgas stream further comprises propane.

Claim 23 (New): The process as claimed in claim 15, wherein the olefin is propene and the offgas stream further comprises propane.

Claim 24 (New): The process as claimed in claim 14, wherein, in step (i), the offgas stream is cooled to from 30 to 40°C and compressed to a pressure of from 12 to 20 bar.

Claim 25 (New): The process as claimed in claim 22, wherein, in step (i), the offgas stream is cooled to from 30 to 40°C and compressed to a pressure of from 12 to 20 bar.

Claim 26 (New): The process as claimed in claim 13, wherein a mixture of propene and propane obtained in the bottoms from a column after the distillation in step (ii) is separated into propene and propane in a C₃ splitter.

Claim 27 (New): The process as claimed in claim 18, wherein a mixture of propene and propane obtained in the bottoms from a column after the distillation in step (ii) is separated into propene and propane in a C₃ splitter.

Claim 28 (New): The process as claimed in claim 19, wherein a mixture of propene and propane obtained in the bottoms from a column after the distillation in step (ii) is separated into propene and propane in a C₃ splitter.

Claim 29 (New): The process as claimed in claim 17, wherein a mixture of propene and propane obtained in the bottoms from a column after the distillation in step (ii) is separated into propene and propane in a C₃ splitter.

Claim 30 (New): The process as claimed in claim 22, wherein a mixture of propene and propane obtained in the bottoms from a column after the distillation in step (ii) is separated into propene and propane in a C₃ splitter.

Claim 31 (New): The process as claimed in claim 23, wherein a mixture of propene and propane obtained in the bottoms from a column after the distillation in step (ii) is separated into propene and propane in a C₃ splitter.

Claim 32 (New): An apparatus for carrying out a process according to claim 26, which comprises at least one reactor for preparing propene oxide, at least one apparatus for compressing the offgas stream, at least one distillation column for separating propene and propane from the offgas stream and a C₃ splitter for separating propene and propane.

Claim 33 (New): A process for the continuous recirculation of an olefin which has not been reacted in the epoxidation of the olefin by means of hydroperoxide to give oxiranes and is present in an offgas stream formed during the epoxidation, comprising:

- (i) compressing and cooling the offgas stream,

(ii) separating the olefin from the offgas stream obtained in step (i) by distillation,
(iii) epoxidizing the olefin separated off in step (ii) by means of hydroperoxide,
wherein, in step (i), the offgas stream is compressed to a pressure of from 2 to 30 bar,
cooled to from 0 to 70°C, and
wherein compression occurs in at least two stages in step (i), and
the offgas stream comprises unreacted olefin and oxygen.

Claim 34 (New): The process according to Claim 33, wherein the olefin is propene
and the offgas stream further comprises propane.

Claim 35 (New): A process for the continuous recirculation of an olefin which has
not been reacted in the epoxidation of olefins by means of hydroperoxide to give oxiranes
and is present in the offgas stream formed during the epoxidation, comprising:

(i) compressing and cooling the offgas stream,
(ii) separating the olefin from the offgas stream obtained in step (i) by distillation,
(iii) epoxidizing the olefin separated off in step (ii) by means of hydroperoxide,
wherein the olefin is propene,
the offgas stream further comprises propane,
in step (i), the offgas stream is compressed to a pressure of from 12 to 20 bar,
cooled to from 30 to 40°C, and
the offgas stream comprises unreacted olefin and oxygen.

Claim 36 (New): A process for the continuous recirculation of propene which has not been reacted in the epoxidation of propene by means of hydroperoxide to give propene oxide and is present in an offgas stream formed during the epoxidation, comprising:

- (i) compressing and cooling the offgas stream,
- (ii) separating propene from the offgas stream obtained in step (i) by distillation,
- (iii) epoxidizing the propene by means of hydroperoxide,

wherein the offgas stream comprises propene, propane and oxygen, and

wherein

in step (i), the offgas stream is cooled to from 30 to 40°C and compressed to a pressure of from 12 to 20 bar,

a mixture of propene and propane is obtained in bottoms from a column after distillation in step (ii), and

said mixture is separated into propene and propane in a C₃ splitter.